PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—GEORGE H. KIDD, M.D., F.R.C.S.I.
General Secretary—W. THOMSON, F.R.C.S.I.

SECTION OF PATHOLOGY.

President—C. J. NIXON, M.D.
Sectional Secretary—J. B. STORY, F.R.C.S.I.

Friday, April 1, 1892.

DR. JAS. LITTLE, and afterwards the PRESIDENT, in the Chair.

Cancer of the Stomach and Liver.

The PRESIDENT (DR. C. J. NIXON) exhibited a specimen of cancer of the pylorus with secondary implication of the liver. The case occurred in a man, aged forty, a shoemaker by trade, and the history pointed to the existence of some digestive obstruction high up in the alimentary canal. No tumour could be detected, but from the presence of cachexia, progressive emaciation, urgent vomiting, and intense anæmia, gastric carcinoma was suspected. The *post-mortem* examination revealed the existence of a tumour of the pylorus, about the size of an orange, which was adherent to the under surface of the liver. The pyloric aperture was much constricted, but there was no dilatation of the stomach. The absence of dilatation was explained by the fact that all through the patient's illness the most urgent vomiting existed, and the walls of the stomach, extending from the pylorus, were to some extent infiltrated with cancerous material. The liver presented the usual appearances of secondary carcinoma.

DR. M'WEENEY, in describing the microscopical appearances, said that pieces of the margin of the ulcer were cut out, fixed with absolute alcohol, embedded in celloidin, and cut into sections of from 10 to 15 μ in thick-

ness with the Thoma-Jung microtome. The edge of the ulcer was found to consist of the deeper ends of the gastric glands, embedded in dense small-cell infiltrations. Below the muscularis mucosa the neoplastic tissue was discovered consisting of masses of well-formed gland tubes, lined with "high" columnar cells, disposed usually in a single layer. Sometimes the proliferation had filled up the lumen with young epithelial cells. The submucous connective tissue had undergone hypertrophy so as to form a dense stroma, in which these cancerous gland-tubes were embedded. The muscular layers were not infiltrated. The liver-sections (prepared in the same way as those of the stomach) show the liver-substance replaced here and there by patches of gland-tissue similar in character to the primary growth just described. When the cancerous nodule abuts upon the liver-substance the neoplastic tubules contain in their lumen a mass of apparently mucoid material in which are embedded numerous degenerate small cells with ternate nuclei. Elsewhere the lumen of the cancer tubules is empty. In the non-cancerous part of the section a slight amount of small-cell infiltration is traceable in the interlobular interstices; and even here one can see minute foci of glandular cancer-cells—the ancestors of the future nodule.

Painless Cancer of the Liver.

Dr. Little showed a liver weighing 178 ounces. The patient, a man forty-eight years old, had been under Dr. Little's observation for a month before death. The whole duration of his illness was only four months. The early symptoms had been chiefly symptoms which suggested disease in the stomach—namely, loss of appetite, dryness of the mouth, waterbrash, and regurgitation of food; in addition, from the beginning of his illness, the patient had suffered from drowsiness and constipation, and at the time when he came under Dr. Little's observation he was deeply jaundiced, and subsequently there was considerable effusion into the peritoneal sac.

At the *post-mortem* examination were found, in addition to a liver which constituted a beautiful specimen of the brain-like cancer, cancerous nodules in the lesser omentum, cancerous nodules in both lungs and enlargement of the mediastinal glands, and of more clinical significance, a hard growth and a deep ulcer in the rectum. Though the patient had never complained of symptoms referable to the rectum, Dr. Little considered the rectum had been the original seat of the cancerous growth, and the growths in the liver and other organs had been secondary. Cancer of the stomach was the most common starting-point of cancer of the liver, but in this case the stomach was unaffected. Dr. Murchison had ranged cancer of the liver among the painful enlargements of the liver; but in this, and in many other cases of cancer of the liver which had come under Dr. Little's observation, there was little pain, and the

patient in the present case never complained of pain even when his abdomen was being examined by the class.

Dr. H. T. Bewley had examined microscopically some of the enlarged glands from the lesser omentum. The sections showed a mass of cancer, consisting of loculi, generally elongated in shape, and made of not very dense fibrous tissue, which were filled with polygonal epithelium-cells. In places there were attempts at the formation of tubular glands, but in most cases the elongated masses of cells were solid. Dr. Bewley called attention to the fact that cancers, secondary to those of the intestine, generally reproduce the tubular glands of the intestine. In this case the epithelium was polygonal in shape, and formed solid cylinders and masses. This peculiarity, he thought, was due to the very rapid growth of the cancer—the growth being even more atypical than usual. The peculiarity of the growth chiefly lay in the fact that although it was excessively hard to the touch, and therefore gave rise to the suspicion that it would prove to be a scirrhus, yet the microscopic structure was that of typical adeno-carcinoma—well-formed gland tubes with comparatively little stroma, and lined by high columnar cells, sometimes lying in several strata within the neoplastic tubule.

Human and Fowl Tuberculosis.

Dr. Parsons read a paper on human and fowl tuberculosis, which was illustrated by some recent specimens of tubercular deposits in the liver, spleen, and intestine of fowl, by microscopical sections, and also by cultures of human and avian tubercle bacilli, for which he was indebted to Professor Straus of Paris. He narrated briefly the steps by which the distinction between human and mammalian bacilli came to be gradually recognised, and gave a detailed account of the recent experiments of MM. Straus and Gamaléia, from which they concluded that, though similar in form and in their reaction towards aniline dyes, the bacilli constitute two distinct varieties. The difference in the appearance of their cultures is manifest—the maximum temperature at which the respective species grow is different; but still more striking is the pathogenic effect of the two micro-organisms. In animals, such as guinea-pigs and rabbits, to whom a small dose of either culture is fatal, there is found at the autopsy in those injected with the bacilli of human origin a generalised eruption of tubercles visible to the naked eye, while the animals inoculated with avian bacilli present no macroscopically visible tubercles. Dogs are susceptible to small doses of human bacilli, but death results from avian bacilli only after a very large injection. MM. Straus and Wurtz had previously demonstrated the impossibility of communicating tuberculosis to fowl by feeding them on phthisical sputum, and MM. Straus and Gamaléia, in their recent investigations, point out that they are likewise proof against the hypodermic injection of large quantities of pure cultures

of human bacilli, while inoculation with a small amount of avian bacilli soon proves fatal. To the important question of the susceptibility of men to infection by the bacilli of fowl tuberculosis, Koch was, at the Tenth International Congress in Berlin, 1890, unable to give a positive reply.

Rhinoscleroma.

Dr. W. G. T. Story read a paper on rhinoscleroma, first described by Hebra in 1870. It is a chronic hypertrophic inflammation of the mucous and submucous tissues of the nose, mouth, pharynx and larynx, which is endemic in some countries, notably Austria and Central America; it is very chronic in its course, the inflammatory stage slowly subsiding and leaving behind it dense cicatricial tissue, which has a great tendency to contract. Both the stage of swelling and cicatricial contraction may cause stenosis of the larynx and trachea, necessitating tracheotomy or dilatation with bougies. The disease is not amenable to medicinal treatment, and though the swollen tissues are easy to cut and heal very readily, it is almost impossible to remove them *in toto*, and parts are left behind which may act as new centres.

Pathologically, the disease is characterised by a small-celled infiltration of the mucous and submucous tissues, with hypertrophy of the papillæ and thickening of the epithelium; there are also present, in the stage of infiltration, and to a less extent in that of cicatricial contraction, large spheroidal cells, first described by Mikulicz. In 1882 Frisch described a bacillus which is always to be found in these cells or lying outside them. Chiefly by the investigations of Drs. Paltauf and v. Eiselsberg in Vienna, it has been established that this micro-organism is the cause of the disease, both in the nose and in the throat, and that it may be got as a pure culture from the diseased tissue; the bacillus is very like, in its appearance and properties, the bacillus which Friedländer has described as the cause of acute croupous pneumonia, but differs from it in its behaviour as cultures on certain nutrient materials, and in its lesser virulence when inoculated into mice and guinea-pigs; like Friedländer's bacillus, it is surrounded by a capsule. Sections were shown of tissue containing the large cells of Mikulicz, and in these the bacilli were to be seen, lying enclosed in their capsules.

The Section adjourned.

SECTION OF STATE MEDICINE.

President—E. MacDowel Cosgrave, M.D.
Sectional Secretary—Ninian Falkiner, M.B.

Friday, May 6, 1892.

The President in the Chair.

Notification of Pulmonary Tuberculosis and Primary Syphilis.

Dr. Ninian Falkiner read a paper on the advisableness of adding "Pulmonary Tuberculosis" and "Primary Syphilis" to those diseases which are subject to notification.

In the case of phthisis, Dr. Falkiner recommended notification and examination of the sputum by a bacteriologist appointed and paid by the State. He stated that there were several hundred persons dying in the tenement rooms of Dublin of phthisis. He believed that if they were removed the mortality from the disease would be diminished, and that it would be possible to cope with it by a State-supported hospital in the future. He strongly urged that the Act for dealing with venereal disease should be enforced, as his experience at a city dispensary showed that there was a dangerous amount of syphilis existing among girls who were living with their parents or as domestic servants. He stated that on one occasion he saw a woman whom he had directed to be sent to the Lock Hospital, and who was saturated with the disease, handling the meat in a butcher's shop in the district.

Dr. Alfred Parsons expressed his entire concurrence with Dr. Falkiner's view that the only certain diagnosis of phthisis was to be made by a microscopical examination of the sputum, consequently the first step towards the isolation of tubercular patients must be the appointment of a public bacteriologist, whose duty it would be to examine the sputa of all suspected cases. Complete isolation, owing to the great prevalence of the disease which is answerable for about one-seventh of the total mortality, did not seem to him to be feasible, and as the greatest mischief was probably done by the expectoration of tubercular sputum on the public highways, he did not think much good would result from the compulsory isolation of patients who were so far advanced in phthisis as to be confined continually to bed. He would look rather to the education of public opinion than to legislative measures as a means of preventing infection, and trusted that the day was not far distant when an enlightened public would provide sputum receptacles in places of resort, as is the custom on the Continent, and insist on phthisical patients carrying with them small spittoons for their expectoration instead of casting it broadcast. With reference to the notification of primary syphilis, he regretted that Dr. Falkiner had confined his observations to that sex which seemed to

him rather sinned against than sinning. He strongly deprecated the introduction of any measures which would pander to a lax public morality, or minimise the risk attached to a wilful and avoidable transgression of nature's laws. He hoped that if notification of primary syphilis ever became compulsory, it would refer equally to each sex.

DR. C. F. MOORE said Dr. Stokes dwelt on the frequency of infection of the wife from the husband and the reverse in his lectures at the Meath Hospital. In addition to separation of the infected, the prevention of phthisis by better drainage of the surface, as seen in the case of Salisbury, ought to be striven for. The carriage of phthisical sputa in a dry state may be one reason why phthisis is found not uncommonly in a dry country like Egypt. The occurrence of phthisis in parts of Ireland where the surface is damp or the dwellings of the people demands attention. In certain garrison towns, as Valetta and Hong-Kong, separation of the unfortunate class of females is or was carried out. The reinforcement of the Contagious Diseases Act would be a most important and valuable measure.

DR. J. W. MOORE agreed with the author of the paper that both tuberculosis and primary syphilis, being infectious diseases, should be liable to notification under the Notification of Infectious Diseases Act. Unfortunately, however, that Act was permissive—not compulsory, and at present there was endless confusion owing to the adoption of the provisions of the Act in some districts and its non-adoption in others. Dr. Moore instanced the existing unsatisfactory distribution of notification in Dublin and its suburbs—the Act was in force in the city and in the Pembroke township, it was not in force in the Rathmines district. He had also reason to know that even in the city, notification was very incompletely carried out. For example, in 1891, only 20 per cent. of the cases of enteric fever which occurred in Dublin city were notified. It was now proposed to add tuberculosis and primary syphilis to the list of notifiable diseases, while the Corporation had just arranged so to add measles and whooping-cough. This was all quite right, provided notification was insisted upon, and the penalties for non-compliance with the Act were enforced. Dr. Falkiner suggested that a recommendation should be made to the Local Government Board for Ireland to make tuberculosis and syphilis notifiable, but the Act left the question to the local sanitary authorities—not to the Local Government Board.

MR. MONTGOMERY considered that the present state of the Act as regards syphilis is very unfortunate, as any young man coming up from the country is at once pounced upon by some of those miserable creatures. Some time back the Act was in full force and acted well. One strong objection was that sometimes respectable females, innocent, were interferred with. As to tuberculosis, it was doubtful whether it should be notified, as it might lead to much annoyance by separation from families.

MR. EDGAR FLINN thanked Dr. Falkiner for his paper. Possibly, as

Dr. Moore said, Dr. Falkiner had brought on the question of the necessity of the notification of tuberculosis and syphilis prematurely, but in doing so he showed his desire to see a much needed reform added to the notification of diseases without delay. The Notification of Diseases Act was much too permissive in its character, and if the Bill now before Parliament of Local Government for Ireland passed in its present form, the grievance they all so much complained of would be made much worse in so far as notification was concerned. Tuberculosis and syphilis were just as necessary to be notified as the other scheduled diseases.

The PRESIDENT (Dr. MacDowel Cosgrave) suggested that if primary syphilis had to be notified, men might be likely to hide their disease and not apply for treatment, and the chief part of the cases notified would be those where the sufferer did not know the nature of the disease. Statistics are certainly required of phthisical cases, but it would be hard to get these by notification, as the same case might be notified time after time by different practitioners. The difficulty of segregating cases is almost insurmountable. Not only is it hard to separate cases in their homes, but early cases, still able to work, must spread the disease in stuffy workshops, and yet they cannot be kept from working.

Some Modern Methods of Sewage Treatment.

MR. EDGAR FLINN read a paper on "Some Modern Methods of Sewage Treatment." [It will be found in Vol. XCIII., page 476.]

PROFESSOR CHARLES TICHBORNE said that Mr. Flinn's paper was of great interest, because it brought before them the various processes which had lately been tried for sewage treatment. The great difficulty of all methods of sewage disposal was that this difficulty grew directly as the size of the town they had to deal with. Therefore every town required its special treatment, and he did not believe that any universal system was applicable. Some years ago he, the speaker, had been taken by Mr. Dibdin, Chemist to the Metropolitan Board, to see the method adopted at London. The process at that time was a very simple one. It consisted in carrying down the sewage by two main sewers into settling tanks, pumping the effluent into the river, and taking away the sludge by steam barges and emptying it into the sea. He was told that even at that time the great difficulty they had to contend with was to dispose of the sedimentary sludge quick enough. How much greater would that be with the monster city where they were using precipitants. The effluent presented no difficulty. A small proportion of manganate of sodium was added before pumping for the purpose of destroying effluvia. The interesting process mentioned by Mr. Flinn, in which magnetic oxide of iron played so important a part, seemed to Prof. Tichborne to be based on a similar theory to the porous iron filters which had been found so successful. There was nothing new about the use of manganates and permanganates for sewage purification. He should like to hear how far

the irrigation system was carried out at Birmingham. Birmingham was a very large town, and if Mr. Flinn could tell them something about that, it would be very interesting.

Dr. Alfred Parsons regretted that Mr. Flinn had devoted such a large part of his paper to an account of the chemistry of the methods of sewage treatment, while the bacteriological aspect of the question had been dismissed in a few brief sentences. To him the latter seemed to be the all-important side of the subject. He yielded to none in his respect for the science of chemistry. It had had a glorious record in the past, and there was a brilliant future before it, but he maintained that the value of any method of sewage treatment must be weighed in the balance of bacteriology and not chemistry. Numerous opinions of distinguished chemists, from Sir Henry Roscoe to Professor Adeney, had been laid before them, and the most they appeared able to say of any system was that the effluent was colourless, tasteless, odourless, but a fluid, he believed, might possess these characters and yet contain large numbers of typhoid bacilli. A liquid, swarming with pathogenic organisms, which from its odour, taste, and appearance is repulsive, is likely to do less injury than a fluid containing similar organisms, but commendable from fulfilling those criteria on which the chemists appear to lay so much stress. Till an exhaustive bacteriological examination of the fluid after precipitation has been made, he must look with great suspicion on any method of treatment in which the effluent is poured into superficial drains which in their course may contaminate many sources of water supply. The use of the sludge for manuring vegetables appeared to him likewise to be fraught with danger, and it did not seem to him to require any vivid imagination—in the absence of any information in the paper of the bactericidal properties of the substance used in the process of precipitation—to understand how typhoid fever might be propagated by the minute particles adhering to imperfectly washed, uncooked vegetables such as lettuce, assuming the presence of typhoid dejecta in the original sewage matter.

Dr. Charles Moore—I would ask Mr. Flinn what is the "Shone System," and if it can be carried out in detail without forming the great aggregate of sewage now so generally the result of main drainage systems. The great difficulty of such systems is the vast amount of liquid matter that has to be dealt with. The prevention of contamination of sewers by the matter from the 80 slaughter yards about Dublin and from other well-known sources of contamination should be carried. The pumping of the surface water by the old pumps of Dublin was an important measure of prevention of many diseases—as phthisis, &c. The larger the system of main drainage the less surface drainage—pumping by steam works.

Dr. MacDowel Cosgrave asked for the comparative expense of the Shone process.

Mr. Flinn replied.

The Section then adjourned.